Monitoring Tire Pressure Sensor Signals With the HDS

The tire pressure sensors transmit signals directly to the TPMS control unit. You can use the HDS to verify if the tire pressure sensors are transmitting signals normally, intermittently, or not at all.

1. Disable or disconnect all electronic aftermarket devices from the vehicle (cell phones and chargers, GPS units, any device that connects to any accessory power outlet).
2. With the ignition switch in LOCK (0), connect the HDS to the data link connector (DLC).
3. Turn the ignition switch to ON (II).
4. Make sure the HDS communicates with the vehicle and the TPMS control unit. If it doesn't, troubleshoot the DLC circuit (see the appropriate service manual).
5. From the TPMS menu, select Data List, and monitor the following signals for each of the four tire pressure sensors.

   NOTE: To set up a custom Data List for this test, see Setting Up the HDS on page 2.

   - Tire Pressure Sensor Reception Counter (This counts the number of times the TMPS control unit receives a signal from the wheel sensor.)

     Normal Activity:
     The counter should increase by 1 every 50 to 90 seconds when driving over 28 mph.

     NOTE: The counter number may not begin at 0 when the ignition switch is turned on.
   - Tire Pressure Sensor Timer.

     (This tracks the amount of time in seconds between each sensor transmission.)

     Normal Activity:
     The counter resets to 0 when the signal is received, and starts counting every 50 to 90 seconds thereafter.
6. Write down the Tire Pressure Reception Counter beginning number for reference.
7. Test-drive the vehicle over 28 mph, and monitor the sensor signals.
   - If any of the reception counters and timers go over 100 seconds between signals, go to step 8.
   - If each of the sensors adds one count every 50 to 90 seconds, then the sensor signals are OK. If the vehicle had an intermittent signal reception problem such as DTC 32, 34, 36, or 38, go to step 11.
8. Check for signal interference - window tint.
   - If the vehicle has window tint, test-drive the vehicle again with the windows down. If the signals return to normal, the window tint must be removed, or the DTC will keep coming back.
   - If the vehicle does not have window tint, or if test-driving with the windows down makes no difference, go to step 9.
9. Check for signal interference - factory-installed equipment. Start removing fuses (audio, HVAC, etc.) one at a time, then test-drive again.
   - If the signals return to normal, isolate all components using that fuse. Replace the component that was causing the interference.
   - If the signals don't return to normal, go to step 10.
10. Substitute a set of known-good tire pressure sensors, memorize them to the control unit, then test-drive the vehicle again.
    - If the signals return to normal, replace the tire pressure sensor(s).
    - If the signals don't return to normal, there is a problem learning the sensors. Replace the TPMS control unit.
11. If the signals were normal during the test-drive, but the vehicle has been in one or more times for a signal problem, try your service customer's aftermarket devices. Connect them one at a time, then test-drive the vehicle again.
    - If any of the reception counts stop or drastically change with that device connected, that device must be removed, or the DTC will come back.
    - If the reception counts are OK, try another device, or continue with normal troubleshooting.

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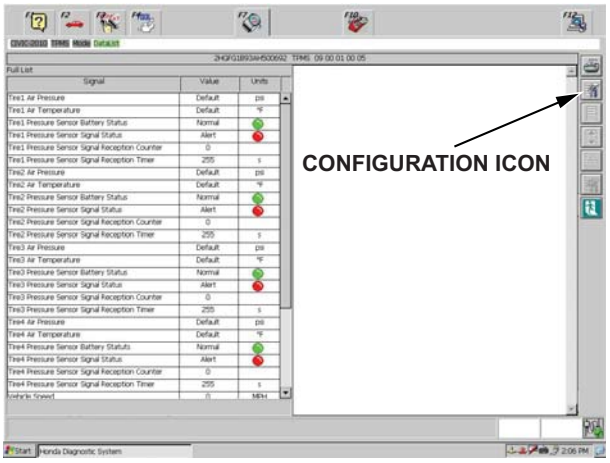
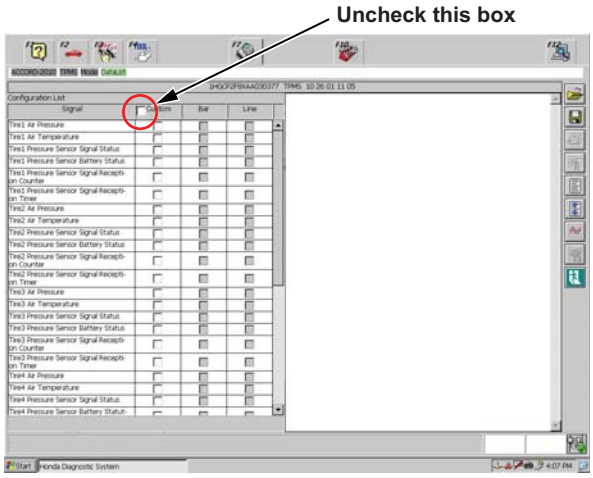
Setting Up the HDS

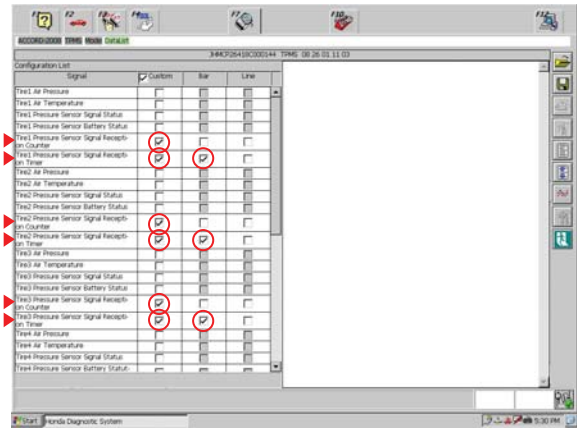
1. Hook up the HDS.
2. Select **TPMS** from the **System Selection Menu,** then select **Data List** from the **Mode Menu.**
3. Click on the configuration icon (below the print icon). You'll see the **Configuration List: Manual** screen.



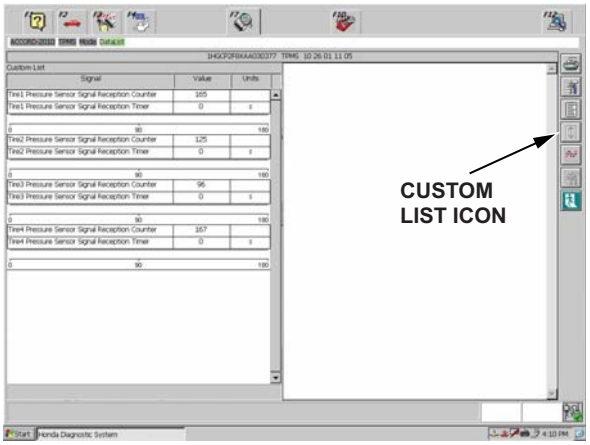
4. In the **Custom** column, uncheck the box. All the check marks in the boxes underneath will clear.



5. Scroll down to **Tire 1 Pressure Sensor Signal Reception Counter**, and check the box in the **Custom** column. (On models with the initiator-type TPMS, you'll see **RF Pressure Sensor...** instead.) Repeat this for the other sensors.
6. Scroll down to **Tire 1 Pressure Sensor Signal Reception Timer**, and check the box in the **Custom** column. (On models with the initiator-type TPMS, you'll see **RF Pressure Sensor...** instead.) Repeat this for the other sensors.



7. Click on the custom list icon (the one with the **blue** up and down arrows). You'll then see the **Custom List: Manual** screen

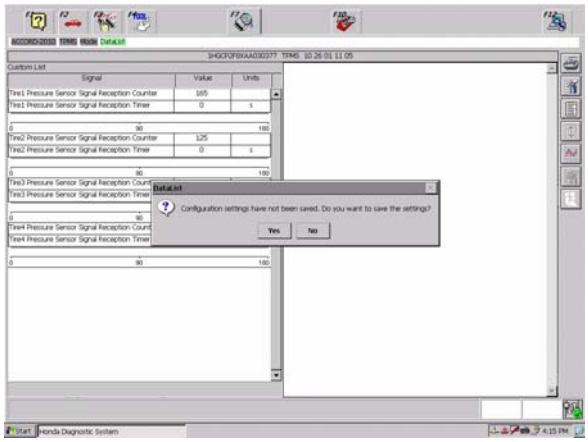


NOTE:

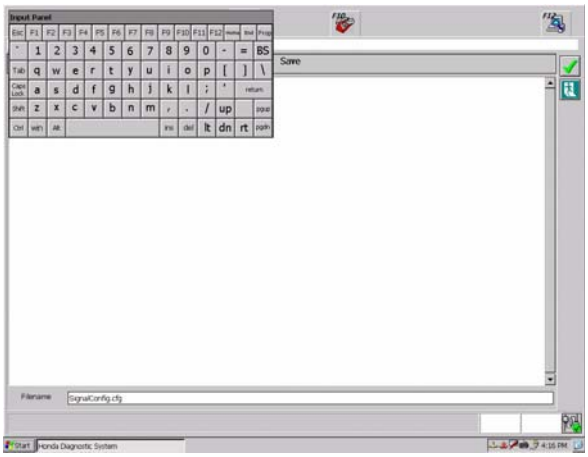
- The tire pressure sensor reception counter shows the number of successful signal receptions from each tire pressure sensor.
- The tire pressure sensor reception timer counts the number of seconds since the last successful signal reception (the actual time varies).
- The status bar resets to zero after a signal reception is received.
- The counters themselves don't always reset to zero. If they don't, note where they start and just make sure they increase in value.
- Signal reception is good when a signal is received from each sensor **within 50 to 90 seconds.**
- Signal reception is being interfered with if the number of signal receptions are infrequent.

Saving and Reusing Your Settings

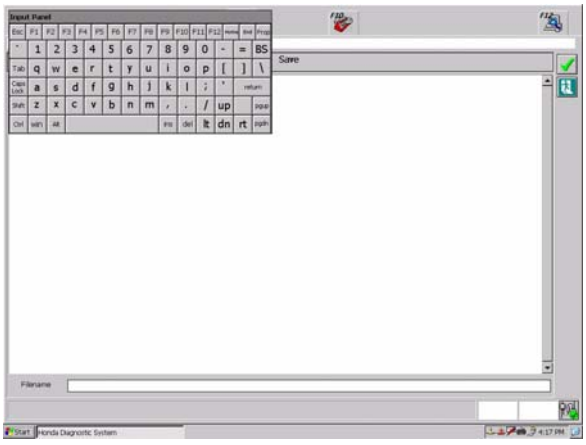
When you leave the **Custom** list, you'll be asked if you want to save your settings. If you do, follow these steps:



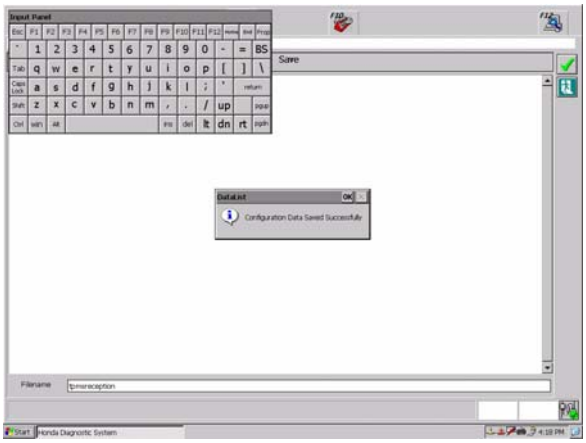
1. Click on **Yes**. You'll see **SignalConfig.cfg** in the **Filename** box at the bottom of the screen.



2. Use the backspace key to delete that filename.



3. Enter a new filename, something like **tpmsreception**. Once you've entered it, click on the **green** check mark. You'll see the message **Configuration Data Saved Successfully.**



To reuse this configuration, follow these steps:

1. Select **TPMS** from the **System Selection Menu,** then select **Data List** from the **Mode Menu**.
2. Click on the configuration icon.
3. Click on the file open icon.
4. Highlight the file name you chose.
5. Click on the **green** check mark, and then the custom list icon. You're now set to go again.